

Draft – For Discussion Purposes Only

| Subsumed Rule/CM | Rule-CM Description | Tier 1 Emission Factor | Tier 1 Emission Factor Units | Basis for BARCT | New Proposed BARCT (lb/mmBtu) | Control Technology | Cost Effectiveness (10 year life) | Cost Effectiveness (15 year life) | Cost Effectiveness (25 year life) |
|------------------|--|------------------------|------------------------------|--|-------------------------------|---------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| 90A-C-5 | Misc. Combustion (Ovens, Kilns, Calciners, Dryers, Furnaces) | 0.062 | lb/mmBtu | Manufacturer Information, Permit Data for Retrofit (70 units currently at or below 30 ppm) | 0.036 (30 ppm) | LoNOx Burner | \$9,500/ton | | |
| 9P-B-5 | Petroleum Refinery FCC Units | 70% reduction | lb/1000 BBL | Permit Data for Retrofit | 1.439 lb/1000 BBL | SCR | \$15,000 - \$20,000/ton | \$12,000 - \$15,000/ton | \$9,000 - \$11,000/ton |
| 90P-C-5 | Metal Melting Furnaces | 0.062 to 0.162 | lb/mmBtu | Manufacturer Information, Permit Data (60 units currently at or below 45 ppm) | 0.055 (45 ppm) | LoNOx Burner | \$8,500/ton | | |
| | Heat Treating Furnaces | | | | | | \$4,000/ton | | |
| R1109 | Refinery Boilers and Heaters > 40 mmBtu/hr | 0.030 | lb/mmBtu | Manufacturer Information, SJVUAPCD, Permit Data for Retrofit (3 units currently at 5 ppm) | 0.006 (5 ppm) | SCR | \$9,500/ton | \$7,300/ton | |
| R1146 | Boilers and Heaters ≥ 5 MM Btu/hr | 0.045 | lb/mmBtu | Manufacturer Information, SJVUAPCD, Permit Data for Retrofit | 0.018 (15 ppm) | LoNOx/ Ultra LoNOx Burner | \$12,500 - \$21,000/ton | \$9,500 - \$16,000/ton | |
| R1146-1 | Boilers and Heaters 2-5 MM Btu/hr | 0.038 | lb/mmBtu | | | | | | |
| R1146-2 | Boilers and Heaters < 2 MM Btu/hr | Reported Value | lb/mmBtu | | | | | | |
| R2009 | Utility Boilers | Differs by facility | | Permit Data for Retrofit | 0.0109 (9 ppm) | SCR | \$3,100/ton* | \$2,300/ton* | |

*Rule 2009 utility boiler cost effectiveness is based on pre-Rule 2009 emissions.